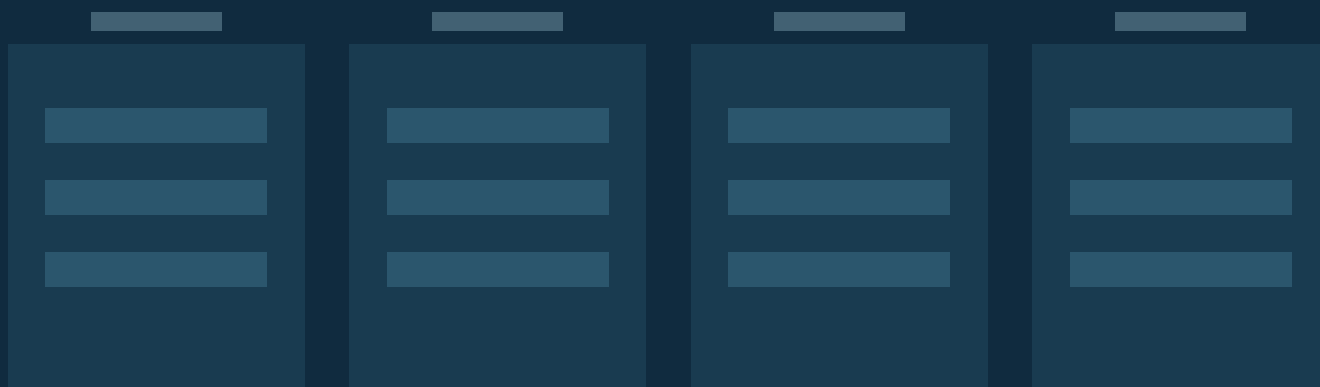


48V



Home energy storage

LiFePO4 · Installation, charging and operation



READ BEFORE INSTALLATION

Keep this manual with your battery. Match every setting and connection to the exact model supplied.

USING THIS MANUAL

Find what you need

Safety essentials	03
Unpacking & installation	04
Model specifications	15
Controls & BMS functions	17
Communication & pin assignments	23
Display & settings	26
Parallel operation & addressing	30
Care & support	34

Choose the exact model

This is a family manual. Capacity, current limits, dimensions, heating, monitoring and connection limits vary by model. Use the matching table column and the technical datasheet supplied with your product.

The technical pages retain the manufacturer's tables and diagrams. Product labels and interface screens may show the original equipment branding.

BEFORE YOU BEGIN

Safety essentials

Prevent short circuits and reverse polarity

Keep terminals protected. Never bridge the positive and negative terminals with tools, cables or other metal objects. Confirm polarity before connecting.

Handle and install with care

Do not crush, puncture, strike, dismantle, incinerate or immerse the battery. Keep it away from heat sources and flammable materials. Do not use a damaged or deformed battery.

Isolate before wiring

Switch off and disconnect equipment before installation. Use insulated tools and suitable protective equipment. Cables and circuit protection must suit the battery and installation. Qualified personnel must carry out the wiring.

Use the correct charger

The family manual specifies a LiFePO4 charger at $57.6V \pm 0.8V$. Confirm the exact model's charging current and temperature limits before charging. Protection thresholds are not normal charger setpoints.

Match batteries before combining them

Do not mix battery chemistries, brands, capacities or models. Check the permitted connection arrangement for the exact battery. Do not apply the 12V or 24V bank examples to a 48V home-storage unit.

Stop if the battery behaves abnormally

Stop use if the battery becomes unusually hot, leaks, smells abnormal, swells or smokes. Keep people clear and seek appropriate assistance. Do not handle or move a hot or smoking battery.

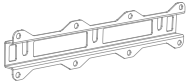
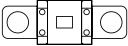
UNPACKING & INSTALLATION



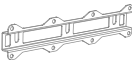
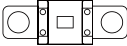
Installation Instructions

1. Unpacking and Inspection

Inspect the unit before installation. Make sure there is no damage in the package. You should receive the following items in the package:

48V 100Ah Smart Home Storage		
①		Solar Battery Pack x 1
②		Wall-Mount Bracket x 1
③		L-Shaped Wall Bracket x 2
④		Bottom Support Bracket x 2
⑤		Wall-Mount Bracket Screws x 3
⑥		M6 Screws x 2
⑦		Expansion Screws x 8
⑧		Communication Cable x 1
⑨		Red battery power cable, 25 mm ² , 1.2 meters x 1
⑩		Black battery power cable, 25 mm ² , 1.2 meters x 1
⑪		150A Fuse x 1
⑫		M4 Screws x 8
⑬		User Manual x 1

UNPACKING & INSTALLATION

48V 314Ah Smart Home Storage		
①		Solar Battery Pack x 1
②		Wall-Mount Bracket x 1
③		L-Shaped Wall Bracket × 2
④		Wall-Mount Bracket Screws x 3
⑤		M6 Screws x 2
⑥		Expansion Screws x 8
⑦		Communication Cable x 1
⑧		Red battery power cable, 70 mm², 1.2 meters x 1
⑨		Black battery power cable, 70 mm², 1.2 meters x 1
⑩		450A Fuse × 1
⑪		User Manual x 1

UNPACKING & INSTALLATION

48V 628Ah Smart Home Storage		
①		Solar Battery Pack x 1
②		L-Shaped Wall Bracket × 2
③		M6 Screws x 2
④		Expansion Screws x 2
⑤		M12 Eyebolts x 4
⑥		M10 Screws x 6
⑦		Communication Cable x 1
⑧		Red battery power cable, 70 mm², 1.2 meters x 1
⑨		Black battery power cable, 70 mm², 1.2 meters x 1
⑩		User Manual x 1

UNPACKING & INSTALLATION

 Installation Instructions

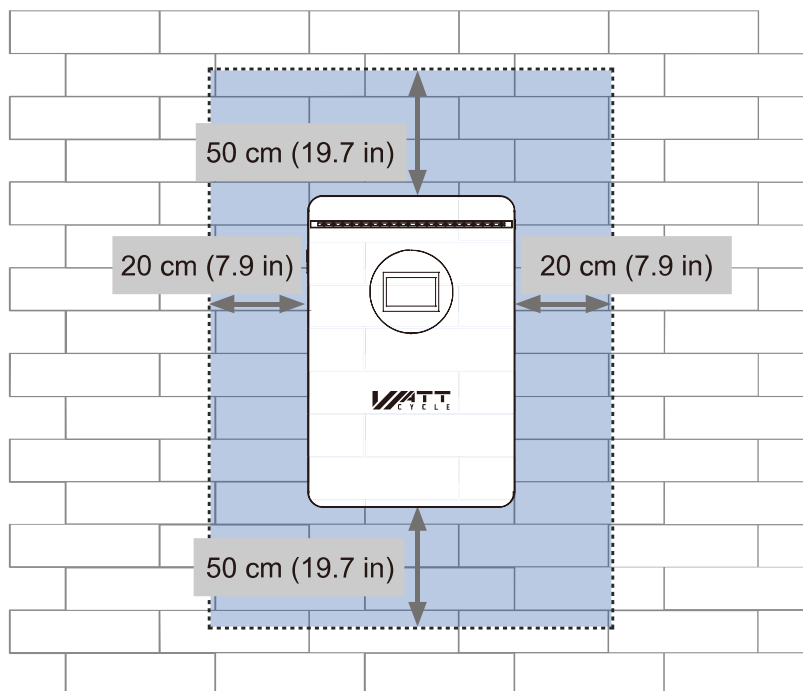
2. Preparation Work: It is recommended to have the equipment installed by a professional electrician. Ensure the product is powered off before installation.

Before selecting a mounting location, consider the following points:

- a. Do not install the all-in-one on flammable building materials.
- b. Do not install the product in a harsh environment.
- c. Mounted on a sturdy surface.
- d. Install the All-in-One at eye level so that the LCD display can be read at all times.
- e. The ambient temperature should be between 0°C and 55°C to ensure optimal operation.
- f. Vertical mounting on the wall is recommended
- g. Be sure to maintain the clearance shown in the diagram to ensure adequate heat dissipation spacing and safe access for disassembly/wiring.

Note: Ensure the air switch is in the "ON" state, then press the key to turn on the product.

Wall-Mounted Installation

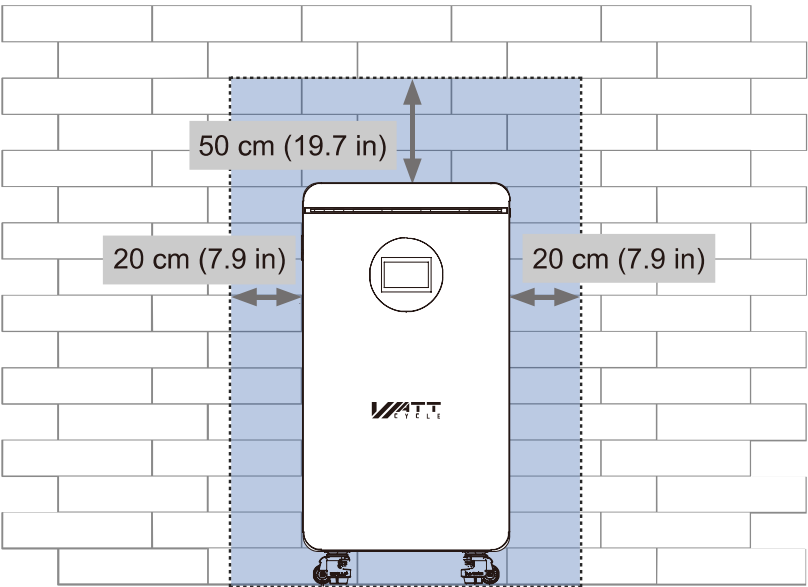


UNPACKING & INSTALLATION



Installation Instructions

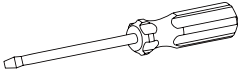
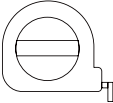
Environmental Protection Tips



WARNING !

- Requires the product to be installed with the power off and disconnected.
- All wiring work must be carried out by qualified personnel.

3. Installation Tool List

Impact drill		For drilling holes in walls to secure wall-mounted brackets
Flathead screwdriver		Slotted screws for mounting the product's back panel
Tape measure		Used to measure and position installation holes and confirm the installation height

UNPACKING & INSTALLATION

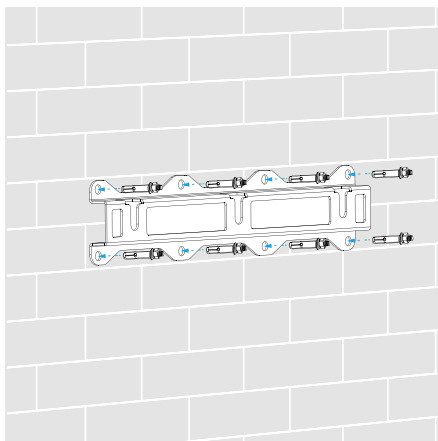
 Installation Instructions

4. Installation Steps

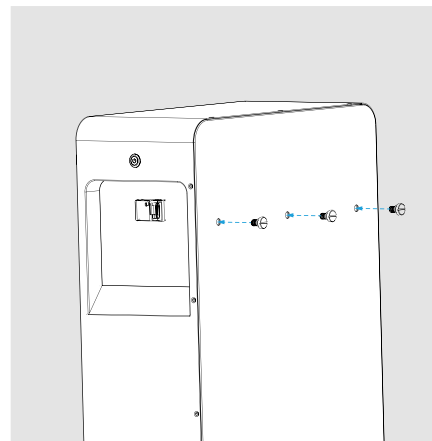
i. Wall-mounted installation method:

- a. Securing the Wall-Mount Bracket: Use the provided anchor bolts to firmly secure the Wall-Mount Bracket to the wall, ensuring the bracket is level and stable without any looseness.
- b. Installing the Backplate Screws: Take the three provided flathead screws and tighten them into the corresponding pre-drilled screw holes on the back of the product.
- c. Mounting the Product: Align the three screws installed on the back of the product with the three U-shaped slots on the wall mount bracket. Insert the screws into the slots from the wider top section. Once properly positioned and adjusted, confirm the product is securely fixed to complete the installation.

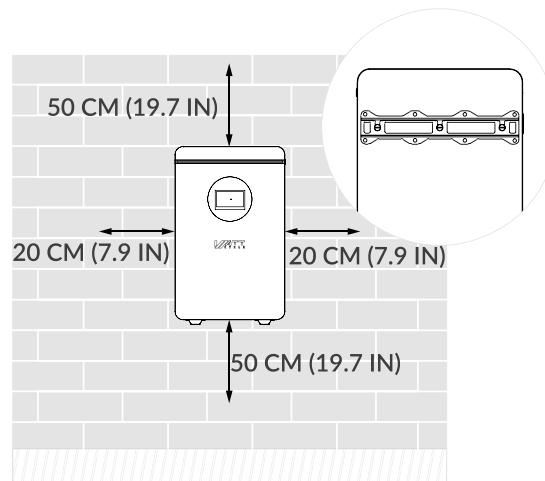
48V 100Ah Smart Home Storage



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UNPACKING & INSTALLATION

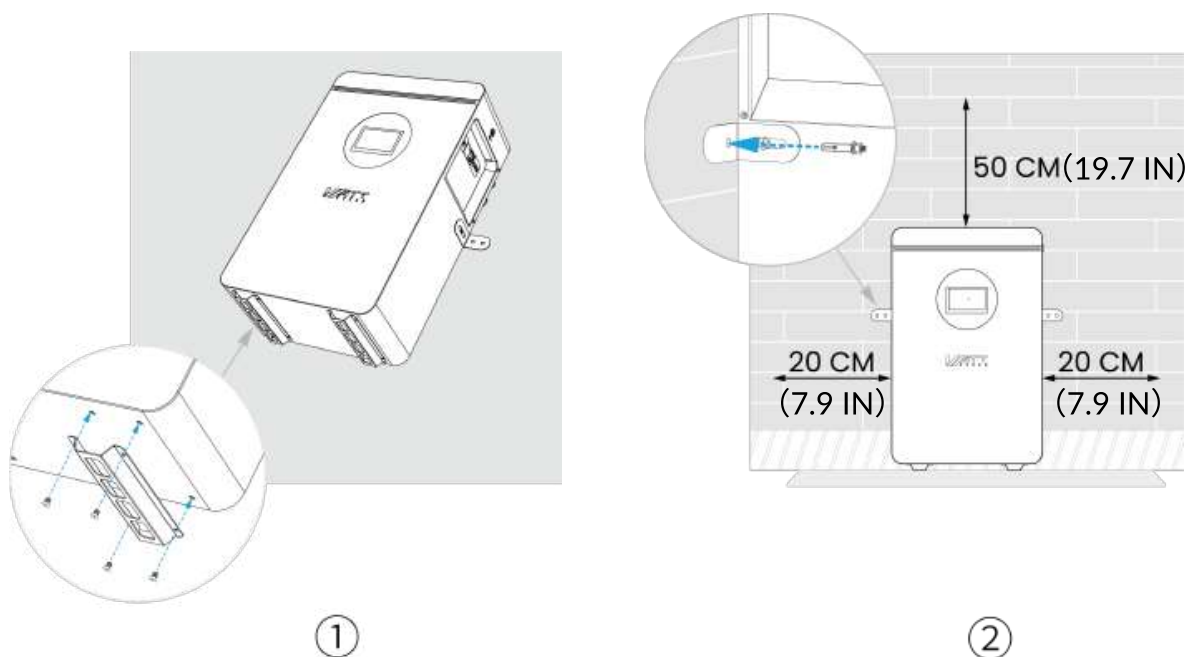
 Installation Instructions

ii. Floor-mounted installation method

a. Install the bottom support bracket screws: Take the eight provided flat-head screws and tighten them into the corresponding pre-drilled screw holes on the bottom of the product.

b. Mount the Product: Align the screw holes on the L-shaped brackets with the pre-marked positions on the wall. Use anchor bolts to securely fasten the product to the wall through these holes.

48V 100Ah Smart Home Storage

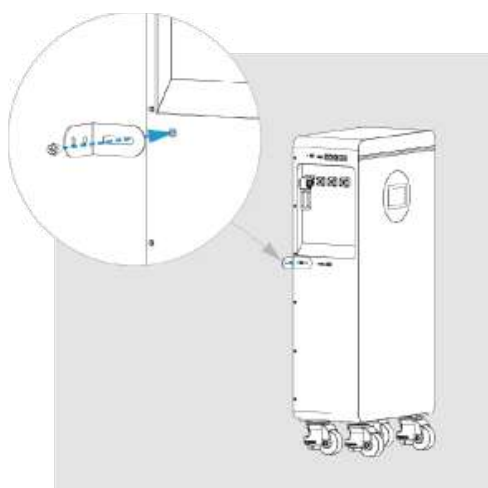


UNPACKING & INSTALLATION

 Installation Instructions

- a. Install the L-Shaped Brackets: Take the provided flat-head screws and attach an L-shaped wall bracket to each side of the product.
- b. Mount the Product: Align the screw holes on the L-shaped brackets with the pre-marked positions on the wall. Use anchor bolts to securely fasten the product to the wall through these holes.

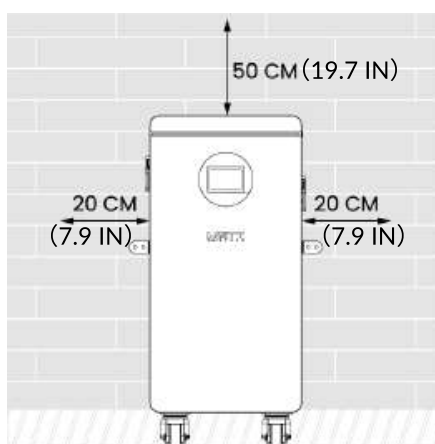
48V 314Ah Smart Home Storage



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UNPACKING & INSTALLATION

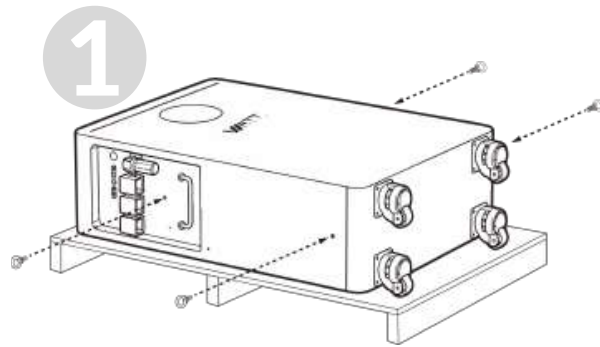
Installation Instructions

i. Product Lifting & Upright Installation

The unit is shipped horizontally. It has $2 \times$ M12 lifting holes on each side (4 in total). Use matching M12 eyebolts for safe lifting and upright installation.

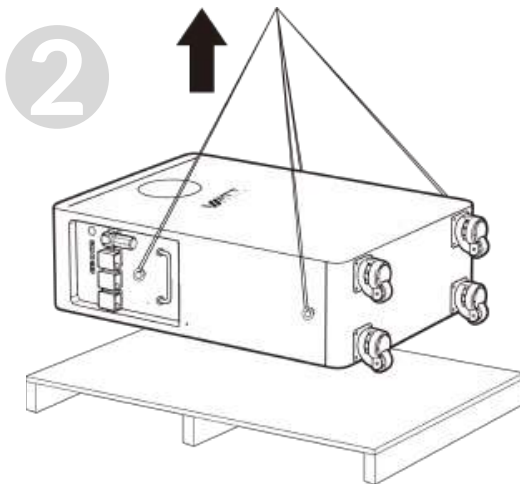


48V 628Ah Smart Home Storage



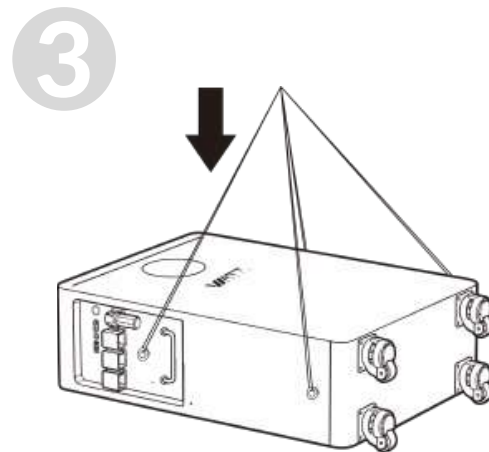
Step 1. Install Eyebolts

Fit and fully tighten M12 eyebolts into the mounting holes, then attach suitable lifting gear.



Step 2. Lift the Unit from Packaging

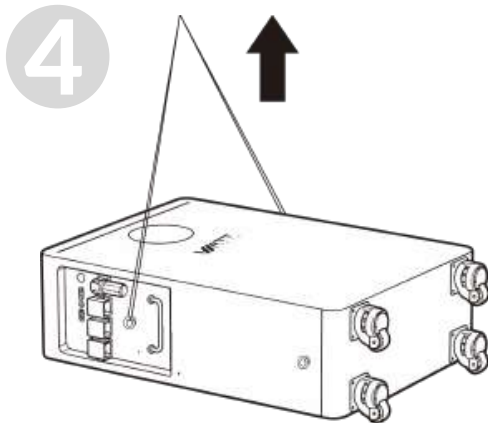
Keep the unit level and lift slowly and steadily out of the crate. Ensure even load distribution across all lifting points.



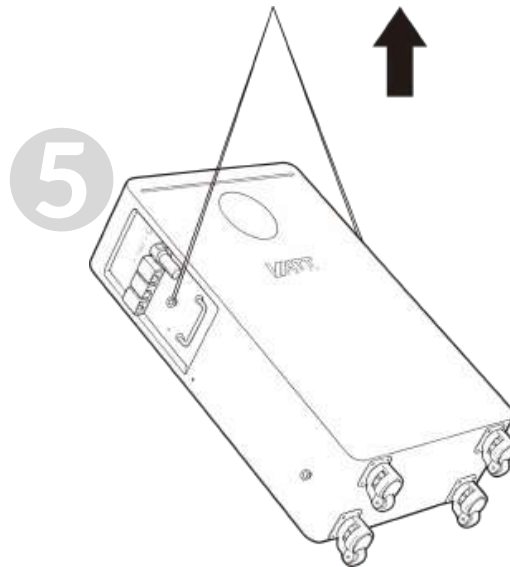
Step 3. Lower to the Ground

Lower the unit slowly and carefully onto the ground. Avoid sudden movements or impact.

UNPACKING & INSTALLATION

 Installation Instructions**Step 4. Begin Lifting to Upright Position**

Use two eyebolts to lift the unit slowly, beginning to raise one end toward the vertical position.

**Step 5. Continue Lifting to Upright Position**

Maintain controlled lifting to bring the unit smoothly to the upright orientation.

**Step 6. Complete Upright Installation**

Once the unit is fully upright and stable, remove the lifting gear and store all eyebolts properly.

 Safety Precautions:

- Lifting operations shall only be performed by qualified personnel in accordance with applicable lifting regulations. Wear personal protective equipment at all times.
- Before lifting, confirm all lifting points are securely fastened and the lifting gear is in good condition.
- Avoid impacts or abrupt movements during lifting to prevent structural damage to the product.

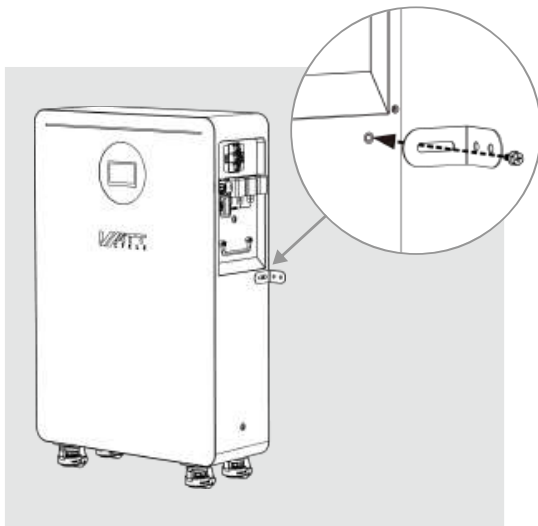
UNPACKING & INSTALLATION

 Installation Instructions

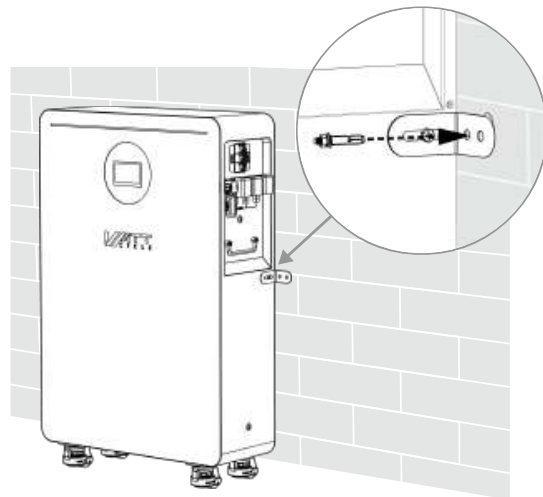
ii. Wall Mounting Instructions

- a. Install the L-Shaped Brackets: Take the provided flat-head screws and attach an L-shaped wall bracket to each side of the product.
- b. Mount the Product: Align the screw holes on the L-shaped brackets with the pre-marked positions on the wall. Use anchor bolts to securely fasten the product to the wall through these holes.

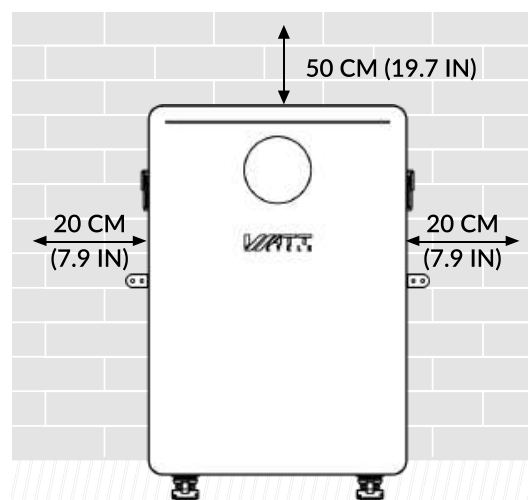
48V 628Ah Smart Home Storage



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MODEL SPECIFICATIONS



Specification

Model	48V 100Ah Smart Home Storage	48V 314Ah Smart Home Storage	48V 628Ah Smart Home Storage
Battery Mode	LiFePO4 Battery		
Battery Energy	5.12kWh	16.07kWh	32.15kWh
Internal Resistance	$\leq 13.9\text{m}\Omega$		
Single Cell Capacity	100Ah	314Ah	628Ah
Rated Operating Voltage	51.2V		
Standard Input Current	50A (Max.100A)	150A (Max.300A)	150A (Max.300A)
Standard Output Current	50A (Max.100A)	150A (Max.300A)	150A (Max.300A)
Overcharge Protection	58.4V		
Overcharge Protection Recovery	53.6V		
Overdischarge Protection	40V		
Overdischarge Protection Recovery	47.2V		

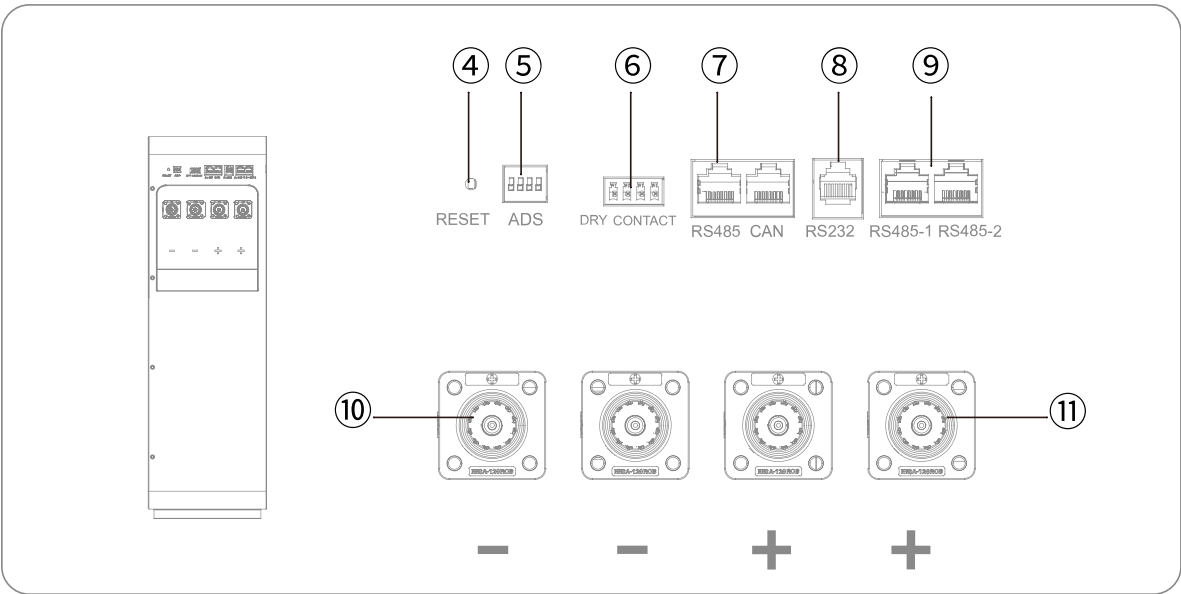
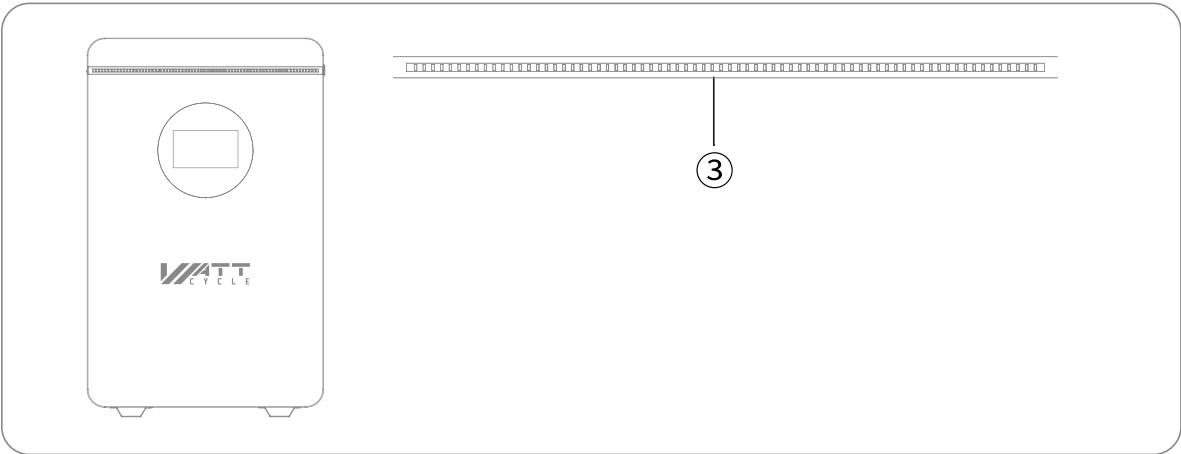
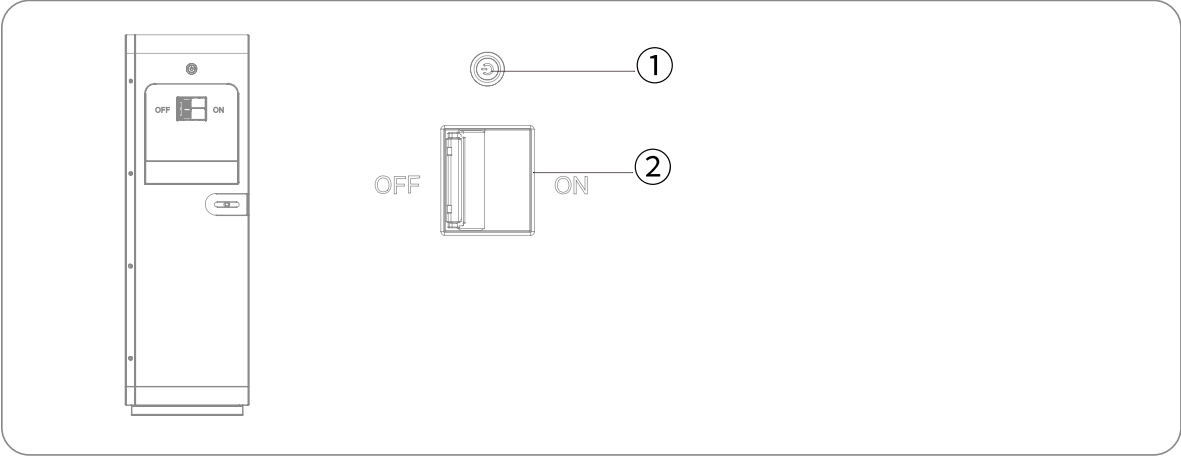
MODEL SPECIFICATIONS

 Specification

Model	48V 100Ah Smart Home Storage	48V 314Ah Smart Home Storage	48V 628Ah Smart Home Storage
Charging Overcurrent Protection	110±10A/1±0.5s	310±10A/1±0.5s	310±10A/1±0.5s
Discharging Overcurrent Protection	110±10A/9~12s	310±10A/9~12s	310±10A/9~12s
Internal Resistance	Recovery Methods: a. Remove the Charger; b. Remove Loads		
Power Delivery	60%		
Equalization	Active Balance		
Parallel Quantity	Manual DIP Switch Setting: ≤15 units/ Automatic Addressing: ≤20 units		
Power Failure Self-Consumption	≤300uA		
Battery Life	6000@DOD80%		
Communication Protoco	RS485, CAN, RS232		
Recommend Charging Temperature	0°C to 55°C/32°F to 131°F		
Recommend Discharging Temperature	-20°C to 60°C/-4°F to 140°F		
Dimensions (L×W×H)	15.67 x 7.87 x 24.61(inch) 398 x 200 x 625(mm)	17.72 x 9.45 x 38.94(inch) 450 x 240 x 989(mm)	27.56 x 9.84 x 42.60(inch) 700 x 250 x 1082(mm)
Weight	47.50kg ±3%/ 104.72 lb ±3%	110.00kg ±3%/ 242.51lb ±3%	485.02lbs±5%/ 220kg±5%

CONTROLS & BMS FUNCTIONS

Function Introduction



CONTROLS & BMS FUNCTIONS

 Function Introduction

①	Mains Switch	Control switch ON/OFF
②	Air Switch	Disconnect input and output
③	Battery Indicator	Remaining capacity display
④	Reset Switch	Reboot or shutdown when pressed
⑤	ADS	Address selection for parallel or communication
⑥	Dry Contact	Normally open or normally closed signal drive relay
⑦	RS485 /CAN	External communication
⑧	RS232	Connect to host computer
⑨	RS485-1/RS485-2	Internal communication or battery parallel use
⑩	Battery Negative	Negative battery terminal
⑪	Battery Positive	Positive battery terminal

1. Overcharge Protection and Recovery**a. Cell Overcharge Protection and Recovery**

When the voltage of any cell is higher than the set value of the cell overcharge voltage, and the duration reaches the cell overcharge delay time, the system enters the overcharge protection state, the charging MOS will turn off, and the battery cannot be charged. After the cell overcharge protection, when the voltage of all cells drops below the cell overcharge recovery value, the overcharge protection state is released. It can also be released by discharge.

CONTROLS & BMS FUNCTIONS

 Function Introduction**b. Overall Overcharge Protection and Recovery**

When the overall voltage is higher than the overall over-voltage set value, and the duration reaches the cell overcharge delay time, the system enters the overcharge protection state, turns off the charging MOS, and cannot charge the battery. When the overall voltage drops below the recovery value of the overall voltage over voltage protection, the overcharge protection state is released, and it can also be released by discharge.

2. Over-Discharge Protection and Recovery**a. Cell Over-Discharge Protection and Recovery**

When the minimum cell voltage is lower than the set value of the over-discharge voltage of the cell, and the duration reaches the cell over-discharge delay time, the system enters the over-discharge protection state, turns off the discharge MOS, and cannot discharge the battery. After the cell over-discharge protection occurs, charging the battery pack can release the over-discharge protection state.

b. Overall Over-Discharge Protection and Recovery

When the overall voltage is lower than the overall over-discharge voltage set value, and the duration reaches the overall over-discharge delay time, the system enters the over discharge protection state, turns off the discharge MOS, and cannot discharge the battery. After the overall over-discharge protection occurs, charging the battery pack can release the over-discharge protection state

3. Over-Current Protection and Recovery in Charging

When the charging current exceeds the charging protection current and the duration reaches the over-current detection delay time, the system enters the charging over-current protection state and cannot charge the battery. After the charging over current protection occurs, it will automatically recover after a delay. If you want to automatically recover or not, you can set the corresponding release time to be longer; the charging over-current state can also be released by discharging.



Function Introduction

4. Over-Current Protection and Recovery in Discharging

When the discharge current exceeds the discharge over-current protection current and the duration reaches the over-current detection delay time, the system enters the discharge over-current protection state and turns off the discharge MOS.

Delayed automatic recovery after discharge over-current occurs, and the corresponding release time can be set longer if automatic recovery is required. Charging can also release the discharge over-current protect condition. Discharge has two-level over-current protection function, which has different response speeds for different current values, and protects the battery more reliably.

5. Temperature Protection and Recovery

a. High Temperature Protection and Recovery in Charging and Discharging

When the NTC detects that the temperature of the battery cell surface is higher than the setting of high temperature protection value during charging and discharging, the management system enters the high temperature protection state, the charging or discharging MOS is turned off, and the battery pack cannot be charged or discharged in this state. When the temperature of the surface of the cell drops to the high temperature recovery set value, the management system recovers from the high temperature state and turns on the charge and discharge MOS again.

b. Low Temperature Protection and Recovery in Charging and Discharging

When the NTC detects that the temperature of the cell surface is lower than the setting of low temperature protection value during charging and discharging, the management system enters the low temperature protection state, the charging or discharging MOS is turned off, and the battery pack cannot be charged or discharged in this state. When the temperature of the cell surface rises to the low temperature recovery set value, the management system recovers from the low temperature state and turns on the charge and discharge MOS again.



Function Introduction

6. Balance Function

If the balance switch is turned on, when the maximum single cell voltage difference of the battery pack is greater than this value, balance starts. And balance ends when the single cell voltage difference is lower than this value. For example, setting the balance opening voltage difference on 10mV and the balance closing voltage difference on 5mV. When voltage difference of the battery pack is greater than 10mV, balance starts. And balance ends when it is lower than 5mV. (It is recommended to set the balance opening voltage difference on 0.005V for above 50AH batteries and 0.01V for below 50AH batteries). When the lowest cell voltage is lower than the set value of 2000mV, active balance will not be turned on even if the cell voltage difference is greater than the set value. The balance current indicates the continuous current of the high-voltage battery discharging and the low-voltage battery charging during the energy transfer process. The maximum balance current indicates the maximum current during the energy transfer process, and the maximum balance current does not exceed 3A.

7. Current Limiting Function

When the overcurrent condition is reached, the current limiting function is activated. The current limiting function is deactivated when any of the following conditions is met:

- The difference between the charging voltage and the battery voltage is less than 0.3V.
- The charging current is lower than 9.5A.
- The charging mode is switched to the discharge mode.
- The battery restarts.

8. Capacity Calculation

The SOC calculation of the battery pack can be accurately performed by integrating current and time. The full capacity and cycle capacity of the battery pack can be set through the host computer, and the capacity can be automatically updated after a complete charge and discharge cycle. It has the function of calculating the number of charge and discharge cycles. When the cumulative discharge capacity of the battery pack reaches the set cycle capacity, the number of cycles increases once.



Function Introduction

9. Sleep and Arousal

Sleep: When any of the following conditions is met, the system is in low-power consumption mode.

- Monomer or overall over-discharge protection does not release within 30 minutes.
- When the on/off switch is off, it will be in the sleep mode after 3 seconds.
- The lowest monomer voltage is lower than the sleep voltage, and the duration reaches the sleep delay time (while meeting the condition of no communication, no protection, no balance, no current).
- The standby time is more than 1440 minutes (no communication, no charge and discharge).
- It closes down compulsively through the software of the upper computer.
- Before it is in the sleep mode, you need to ensure that the input port is not connected to external voltage. Otherwise, it can not be in the low-power mode.

Arousal: when the system is in low-power consumption mode and meets any of the following conditions, the system exits the low-power consumption mode. And then it will be in the normal running mode:

- Connecting to the charger, and the output voltage of the charger should be more than 0.4V of the battery voltage.
- The on/off switch is on.

Function Introduction

10. Communication

a. Serial Communication

The connection method: After installing the special driver for our communication tool on the computer, insert the USB end of the communication tool into the USB port of the computer, and connect the other end to the corresponding interface of the BMS that has been connected to the battery pack. Open the upper computer, click the communication port settings, select the COM port corresponding to the communication tool, and do not change other options. After confirming, click start to read the data in the protection.

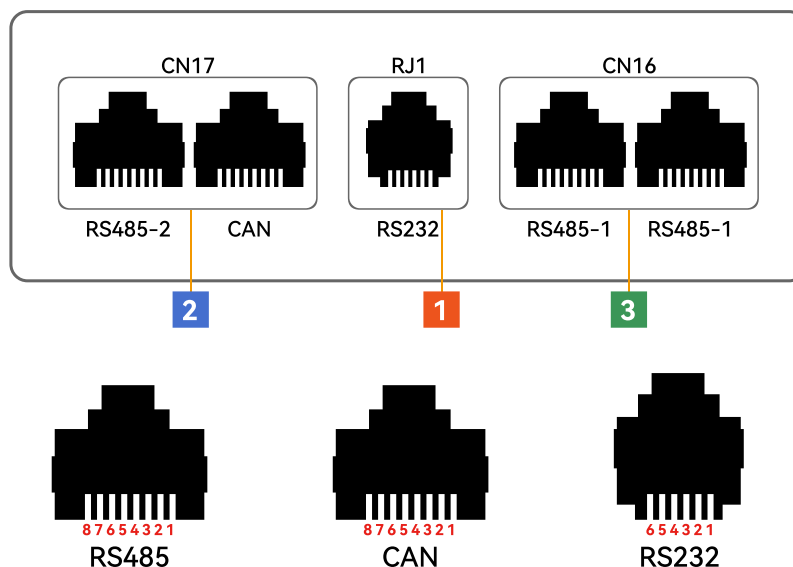
b. CAN/RS485/RS232 Communication

CAN communication: the default communication rate is 500K. Please contact the sales to obtain the communication protocol.

RS485 communication: the BMS can use view various information of the battery pack through RS485 communication interface, including battery voltage, current, temperature, state, etc., The default baud rate is 9600bps. Please contact the sales to obtain the communication protocol.

RS232 communication: the BMS can communicate with the upper computer though the RS232 communication tool and bluetooth interface, thereby you can monitor various battery information on the upper computer, including battery voltage, current, temperature, state, and information of battery production, etc., The default baud rate is 9600 bps.

Note: Please refer to the configuration table to check whether the above communication has functions.



COMMUNICATION & PIN ASSIGNMENTS

 Function Introduction**1****RS232 - Using 6P6C Vertical RJ11 Sockets**

RJ11 pin	Definition Description
2	NC
3	TX (Veneer)
4	RX (Veneer)
5	GNDI

2**RS485 - Using 8P8C Vertical RJ45 Sockets****CAN - Using 8P8C Vertical RJ45 Sockets**

RJ45 pin	Definition Description	RJ45 pin	Definition Description
1, 8	RS485-B1	1, 2, 3, 6, 8	NC
2, 7	RS485-A1	4	CANH
3, 6	GND	5	CANL
4, 5	NC	7	GND

3**RS485 - Using 8P8C Vertical RJ45 Sockets****CAN - Using 8P8C Vertical RJ45 Sockets**

RJ45 pin	Definition Description	RJ45 pin	Definition Description
1, 8	RS485-B	1, 8	RS485-B
2, 7	RS485-A	2, 7	RS485-A
3, 6	GND	3, 6	GND
4, 5	NC	4, 5	NC

COMMUNICATION & PIN ASSIGNMENTS

 Function Introduction**11. The Instructions of Buzzer**

It buzzes for 0.25s in every 1 second when there is a fault. It buzzes for 0.25s in every 2 seconds while protecting. It buzzes for 0.25s in every 3 seconds while alarming.
The buzzer function can be run or closed by the upper computer. And the buzzer is closed by factory default.

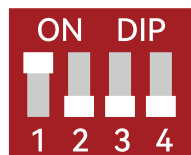
12. The Instructions of On/Off Switch

When the on/off switch is on, then the charge and discharge of MOS is turned on, and the BMS is in normal working state. When the on/off switch is off, then the charge and discharge of MOS is turned off, and the BMS is in the protection state. It is in deep sleep state at the same time, and it can not charge or discharge.

13. Dial Switch

Several battery PACKs in parallel, you can distinguish different PACKs by setting the address through the dial switch on the BMS. It is necessary to avoid setting the same Address.

Following is the dial switch definition.

**14. The Instruction of Dry Contact and Reset Switch****MAIN CONTACT**

Dry contact 1-PIN1 to PIN2 is off normally, and on during under voltage protection.
Dry contact 2 to PIN3 to PIN4 is off normally and on during fault protection.

**RESET**

DISPLAY & SETTINGS

When the BMS is in the active state, press the button (3~6s) and release it, the BMS is hibernated (no charge), and the LED indicator lights are on successively for 0.5 seconds from the lowest power indicator.

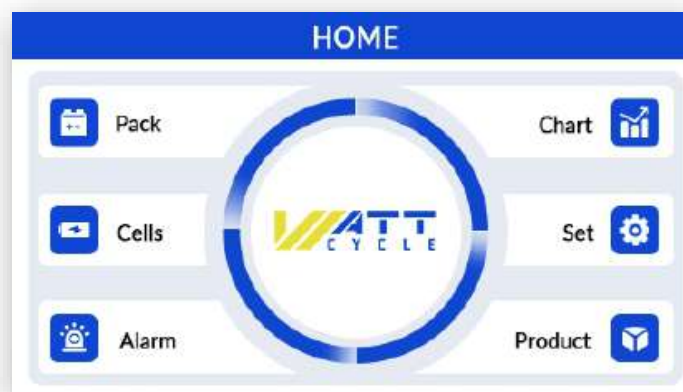
When the BMS is in the activated state, press the button (6-10s) and release it, the BMS is reset, and all LED lights are on at the same time until the reset is complete.

After the BMS is reset, the parameters and functions set by the upper computer are still retained. If the initial parameters need to be restored, it can be achieved by "restoring default values" of the upper computer, but the relevant running records and stored data remain unchanged (such as power, cycle times, protection records, etc.).

Display Description

1. Display - Main Interface

Display six functions: system parameters, cell information, system status, chart information, system settings, and product information.



2. Display - system parameters (built-in active equalization customized version)

Real-time display of battery information: SOC, total voltage, current, maximum (low) cell voltage, maximum (low) cell temperature, charging (discharging) MOS status, system information, communication address switching, active equalization function setting, equalization current.



DISPLAY & SETTINGS

Display Description

Active Equalization Setting:

- Pull down to select -OFF: indicates to turn off the active equalization function;
- ON: indicates that the active equalization function is forced to be turned on; default equalization is ON → press or long press the number, set the equalization current (maximum current 3A), set the equalization open pressure difference (maximum 50mV) → write to take effect → click refresh (to confirm whether the setting is successful).

Note: Setting the active equalization function after switching other battery communication addresses is not supported.



Battery address communication switching: When batteries are connected in parallel, click on the address number to switch the address and view the data of batteries with different addresses.

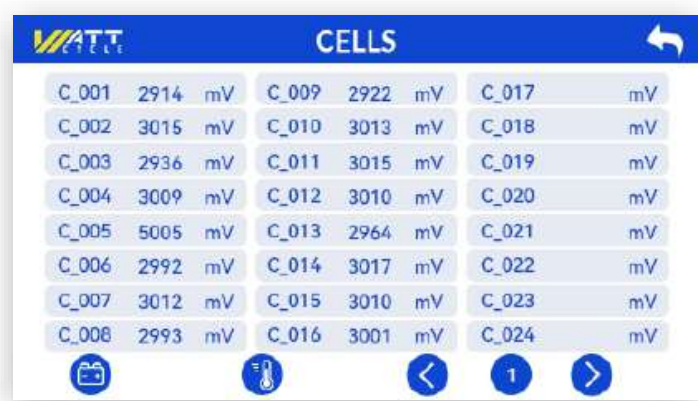


DISPLAY & SETTINGS

Display Description

3. Display - Unit Parameters.

Real-time display of battery cell information: single cell voltage, single cell temperature. When the cell data exceeds the 24S data displayed on the page, you can switch the page by tapping the arrow keys to view all the cell data. At the bottom left of the screen, select the corresponding battery cell and temperature icon to switch the page of single cell voltage and temperature data.



The screenshot shows a screen titled 'CELLS' with a table of 24 cells. Each cell entry consists of a cell ID, a numerical value, and a unit (mV). At the bottom of the screen, there are five icons: a battery icon, a temperature icon, a left arrow, a '1' icon, and a right arrow.

Cell ID	Value	Unit
C_001	2914	mV
C_002	3015	mV
C_003	2936	mV
C_004	3009	mV
C_005	5005	mV
C_006	2992	mV
C_007	3012	mV
C_008	2993	mV
C_009	2922	mV
C_010	3013	mV
C_011	3015	mV
C_012	3010	mV
C_013	2964	mV
C_014	3017	mV
C_015	3010	mV
C_016	3001	mV
C_017		mV
C_018		mV
C_019		mV
C_020		mV
C_021		mV
C_022		mV
C_023		mV
C_024		mV

4. Display - System Status

Real-time display of battery status: warning status, protection status, fault status. When the battery has a warning, the corresponding item column will display the warning name.



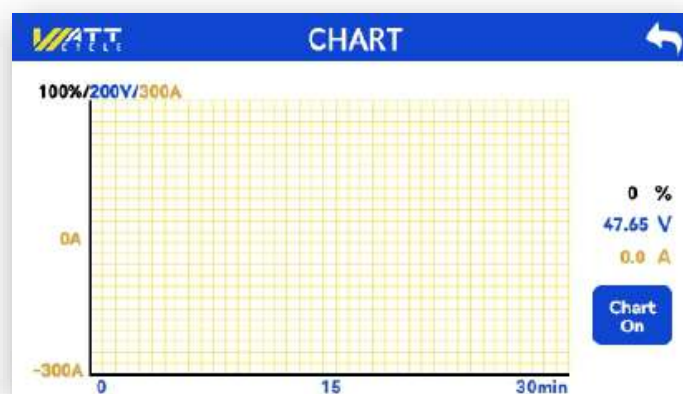
The screenshot shows a screen titled 'ALARM' with three columns: 'Alarm_Status', 'Protect_Status', and 'Fault_Status'. Each column has a large empty box below the header, indicating where a warning name would be displayed.

Alarm_Status	Protect_Status	Fault_Status

DISPLAY & SETTINGS

 Display Description**5. Display - Chart Curves (This function is for reference only)**

Function: Chart Off - Real-time chart function on Chart ON - Real-time chart function off Generate real-time curve charts with 30min as x-axis and SOC, voltage and current as y-axis.

**6. Display - System Settings**

Set the communication protocol between battery pack and inverter and display language.



PARALLEL OPERATION & ADDRESSING

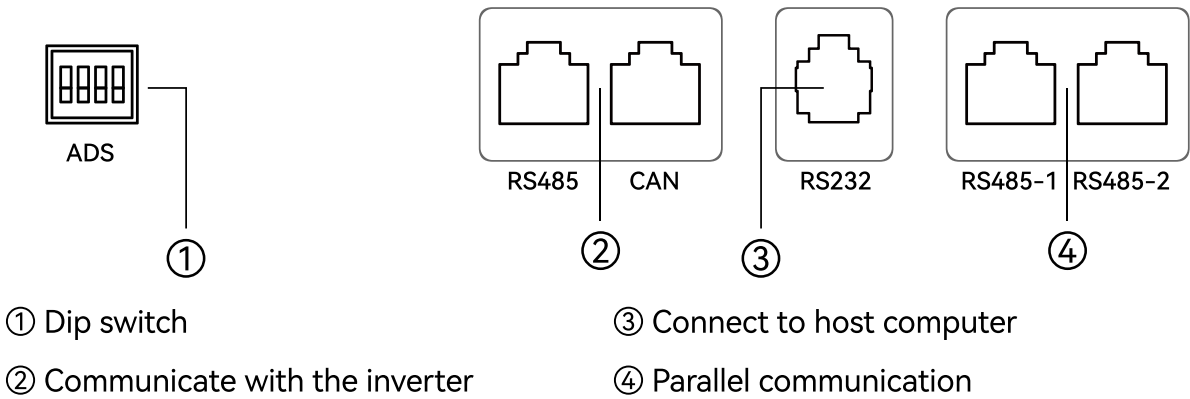
Display Description

7. Display - Product Information

Displays battery information: software version, serial number, and vendor information.



Parallel Description



PARALLEL OPERATION & ADDRESSING

Parallel Description

1. Manual DIP Switch Setting

When connecting several battery packs in parallel, you can distinguish different packs by setting the address through the dip switch on the BMS. It is necessary to avoid setting the same address. Following is the dip switch definition.

Address NO.	Dip Switch Picture	Position of Dip Switch			
		#1	#2	#3	#4
1		ON	OFF	OFF	OFF
2		OFF	ON	OFF	OFF
3		ON	ON	OFF	OFF
4		OFF	OFF	ON	OFF
5		ON	OFF	ON	OFF
6		OFF	ON	ON	OFF
7		ON	ON	ON	OFF
8		OFF	OFF	OFF	ON
9		ON	OFF	OFF	ON
10		OFF	ON	OFF	ON
11		ON	ON	OFF	ON
12		OFF	OFF	ON	ON
13		ON	OFF	ON	ON
14		OFF	ON	ON	ON
15		ON	ON	ON	ON

2. Parallel Communication Specification

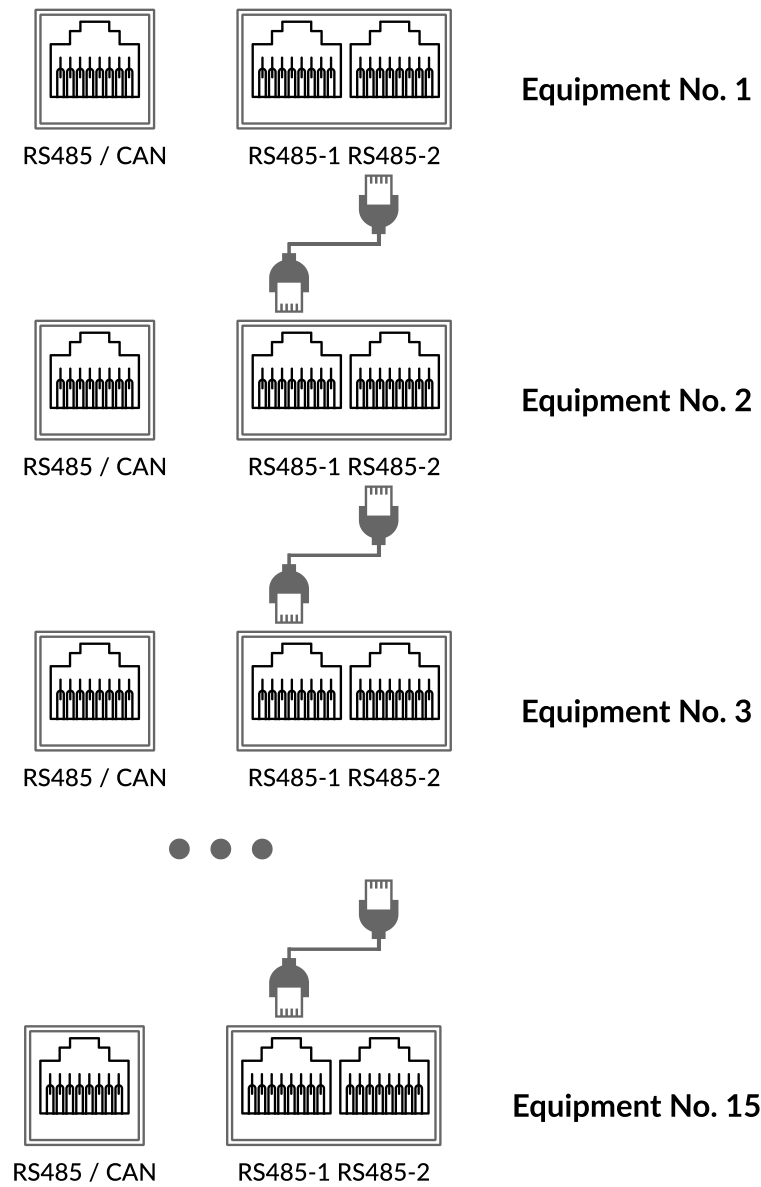
Connect correctly the RS485 in parallel. Connect one end of the main BMS network cable to the link port OUT network port and the other end to the link port IN to the second parallel network port. Connect one end of the second parallel network cable to the link port OUT network port and the other end to the link port IN to the 3rd parallel network port. And connect parallel communication cables one by one.

Note: Please do not connect the cable to the wrong position; otherwise, the address assignment fails.

PARALLEL OPERATION & ADDRESSING

Parallel Description

Note: RS485-1 denotes LINK-IN and RS485-2 denotes LINK-OUT.



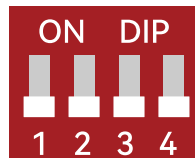
PARALLEL OPERATION & ADDRESSING



Parallel Description

3. Automatic Addressing

Automatic DIP switches: All parallel BMS DIP switches must be in the "OFF" position, as shown in the figure.



a. Connect correctly the RS485 in parallel. Connect one end of the main BMS network cable to the link port OUT network port and the other end to the link port IN to the second parallel network port. Connect one end of the second parallel network cable to the link port OUT network port and the other end to the link port IN to the 3rd parallel network port. And connect parallel communication cables one by one.

b. After connecting all machines, turn off the Mains Switch. If the parallel connection is normal, all machines will power off. Turn on the Mains Switch. At this time, all slave machines will power on simultaneously, and all lights on the indicator boards of all machines will begin to flash. Wait approximately 20 seconds. The main unit will display the average SOC of all machines, while only the running light on the slave machines will flash. If any lights are found to be flashing abnormally, check if the parallel communication cable is OK. Then repeat the above steps.

c. After automatic DIP switching, when the main unit uses the manual DIP switch, other slave machines can use the manual DIP function normally. When both the main unit and slave machine DIP switches are in the OFF state, the BMS address will return to the address where automatic DIP switching was successful.

Keep your battery ready

Storage

If the battery remains unused for more than three months, the source manual recommends replenishing its charge. Keep the unit dry, protected from heat and within its specified storage conditions.

Inspection

Keep the casing and terminals clean and dry. Look for loose connections, corrosion, damaged insulation or signs of impact before use. Resolve faults before reconnecting the system.

If the battery shows 0V

A 0V reading can indicate BMS protection. Disconnect the load and check the relevant protection section. Do not bypass the BMS or repeatedly reconnect a faulted circuit. Contact support if the cause is unclear or protection does not clear.

Smart features

Bluetooth, heating, active balancing and communication interfaces are model-dependent. Use only the app, cable and protocol specified for your exact battery. A connector alone does not establish inverter compatibility.

Support and warranty

Keep the order number, model, serial number and a description of the fault. Contact PVShop through your order confirmation or pvshop.store for assistance. Warranty and return terms are those provided with your purchase; this manual does not create additional warranty coverage.

End of service

Arrange battery recycling in accordance with local requirements. Protect the terminals during handling and follow the collection provider's instructions.